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By E-Mail
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Molly Lamrouex
Airports Division
MDOT Bureau of Aeronautics and Freight Services
2700 Port Lansing Road
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Re: Comments by The Charter Township of Pittsfield on the Environmental
Assessment for Ann Arbor Municipal Airport

Dear Ms. Lamrouex:

The following comments are submitted on behalf of The Charter Township of Pittsfield on the February 2010 Environmental Assessment for Ann Arbor Municipal Airport ("EA").

I. THE PROJECT'S STATED PURPOSE AND NEED IS UNSUPPORTED BY THE
EVIDENCE.

An EA must include a discussion of the purpose and need for the proposed action which must "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." [40 C.F.R. § 1502.13]. In addressing the Purpose and Need section of an EA, FAA Order 1050.1E provides that: "This discussion identifies the problem facing the proponent (that is, the need for an action), the purpose of the action (that is, the proposed solution to the problem), and the proposed timeframe for implementing the action." FAA Order 1050.1E, ¶ 405c. The EA accomplishes none of these goals.



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A. The EA Supports Neither the Problem it Aims to Solve Nor its Purported Solution.

First, the EA defines the *purpose* of the Project¹ as “to provide facilities that more effectively and efficiently accommodate the *critical aircraft* that presently use the airport, as well as to enhance the operational safety of the airport.” [EA, p. 2-4]. The EA defines “critical aircraft” as “the most demanding aircraft-type that performs a minimum of 500 annual operations at a particular airport,” *Id.*, and states that a 2009 MDOT Airport User Survey “has confirmed that the critical aircraft classification for ARB is ‘B-II Small Aircraft.’” *Id.*

To effectuate the stated purpose, the EA purports to support the construction of a runway extension from 3,505 feet to 4,300 feet. However, the extant evidence is clear that no “B-II Small Aircraft” require a 4,300 foot long runway. All B-II Small Aircraft are capable of operating on the existing 3,505 feet long runway without weight restriction. *See*, attached Williams Aviation Consultants Report [incorporated herein by reference]. In fact, the representative B-II Small Aircraft cited in the EA, the Beechcraft King Air 200, requires only 2,579 feet of runway to take-off fully loaded, and 2,845 feet to land. *See*, http://www.hawkerbeechcraft.com/beechcraft/king_airb200gt/specifications.aspx. Thus, the statement that “[d]evelopment of the primary runway at ARB to the recommended length of 4,300-feet would allow the majority of B-II Small Aircraft to operate at their optimum capabilities (without weight restrictions)” [p. 2-4], although true, is misleading. There is no need to extend Runway 6/24 to allow B-II aircraft to operate at ARB. They can operate on a 3,505 foot runway without weight restrictions. Therefore, the statement that interstate commerce would be negatively impacted by B-II Small weight restrictions does not state a valid need, and the purported purpose of “provid[ing] facilities that more effectively and efficiently accommodate the *critical aircraft* that presently use the airport” is an unnecessary solution to a nonexistent problem.

B. The EA Incorrectly Relies on *Total* Annual Operations to Support the Proposed Runway Extension.

The EA states, “[t]he critical aircraft, or grouping of aircraft are generally the largest, most demanding types that conduct at least 500 operations per year at the airport” [EA, p. 2-7], and concludes that the proper Airport Reference Code (“ARC”) for ARB is “B-II Small”, based on a total of “750 actual annual operations by B-II category critical aircraft from survey data year

¹ The proposed improvements described at page 2-1 of the EA are referred to herein as the “Project.”



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2007.” [EA, p. 2-9]. However, the EA’s use of “annual operations” differs markedly from the FAA criteria for selecting runway lengths and widths set forth in FAA Order 5090.3C:

3-4. AIRPORT DIMENSIONAL STANDARDS

Airport dimensional standards (such as runway length and width, separation standards, surface gradients, etc.) should be selected which are appropriate for the critical aircraft that will make substantial use of the airport in the planning period. Substantial use means either 500 or more annual *itinerant* operations, or scheduled commercial service. FAA Order 5090.3C, p. 21 (emphasis added).

(FAA Order 5090.3C does not state that critical aircraft must be the “largest.”)

The FAA divides General Aviation operations into two categories, “local” and “itinerant.” Itinerant operations are defined as “an operation performed by an aircraft, either IFR, SVFR, or VFR, that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.” [U.S. DOT JO 7210.695, p. 5]. Local operations are defined as “those operations performed by aircraft that remain in the local traffic pattern, execute simulated instrument approaches or low passes at the airport, and the operations to or from the airport and a designated practice area within a 20-mile radius of the tower.” *Id.*

The EA, without reference to this distinction, relies on “annual operations” and “total annual operations” not “itinerant operations,” *see*, EA, Table 2-1, p. 2-10. Separating itinerant and local operations at ARB would result in a dramatic reduction in the number of annual critical aircraft operations at the airport. For example, data from the website City-Data.com shows that there were 29,322 itinerant operations and 43,573 local operations at ARB in 2007, the year used by MDOT in the EA. *See*, <http://www.city-data.com/airports/Ann-Arbor-Michigan.html>. In that itinerant operations account for approximately 40% of the total operations at ARB, itinerant B-II operations for 2007 would be in the neighborhood of 300 operations per year [40% of 750 total operations], substantially below the FAA’s threshold of 500 annual operations to constitute “substantial use.” Moreover, the Airport User Survey shows only 293 annual B-II Small operations at ARB in 2007. [EA Appendix A-1, p. 7]. Thus, the FAA Order 5090.3C airport dimensional standards for B-II small aircraft do not apply.



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C. Shifting Runway 6/24 150 Feet to the Southwest Will Not Achieve an Additional Margin of Safety.

The EA states as part of its purpose to “[e]nhance operational safety in low-visibility conditions by providing a clear 34:1 approach surface to Runway 24, over State Road.” [EA, p. 2-5]. Operational safety in low visibility conditions will not be enhanced by providing a clear 34:1 approach surface to Runway 24. The EA is correct in stating that shifting the Runway 24 threshold 150 feet west would enhance safety by effectively removing the current obstruction to line-of-site vision (hangar) of the parallel taxiway for ATCT personnel. [EA, p. 2-5]. However, in the next paragraph the EA states, “The proposed shift of the Runway 24 threshold would also allow for a clear 34:1 approach surface to the east end of the runway (the current approach surface is the steeper 20:1). By keeping obstructions below the flatter 34:1 approach surface, an additional margin of safety is provided between approaching aircraft and any ground-based obstacles.” [EA, p. 2-5]. This statement lacks support in either the Instrument Approach Procedure (IAP) design or Terminal Instrument Procedures (“TERPS”) Obstruction Standards.

Both the 20:1 and the 34:1 surfaces exist simultaneously for every published IAP, and are defined as “Obstacle Identification Surfaces” which do not establish obstacle clearance safety margins, but rather only define instrument approach visibility minimums. The FAA does not require either of these two surfaces to be free of penetration by obstacles, and thus “providing an additional margin of safety,” as stated in the EA, does not apply in the case of these two surfaces. Other TERPS surfaces (Obstacle Clearance Surfaces) are established which do ensure clearance from obstructions, and the FAA requires that these Obstacle Clearance Surfaces be clear of structures and terrain. The current IAPs to Runway 24 were designed by the FAA to accommodate all existing obstructions. Thus, shifting the runway 150’ southwest would not enhance safety. Assuming that the EA is correct in the assertion that shifting the Runway 24 threshold would eliminate obstruction penetrations to the existing 34:1 Obstacle Identification Surface, the effect would not be a safety improvement, but would result only in a reduction in the required approach visibility minimums. [See, attached Williams Aviation Consultants Report]

II. THE EA DOES NOT CONSIDER ALL REASONABLE ALTERNATIVES.

The National Environmental Policy Act (“NEPA”) [42 U.S.C. §§ 4321 *et seq.*] requires that federal agencies examine all reasonable alternatives in preparing environmental documents. [42 U.S.C. § 4332(c)(iii)]. An agency preparing an EA should develop a range of alternatives that could reasonably achieve the need that the proposed action is intended to address. The Council on Environmental Quality (“CEQ”) Regulations (“NEPA Regulations”), which implement NEPA, require that Federal agencies “[u]se the NEPA process to identify and assess



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the reasonable alternatives to the proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment” 40 C.F.R. § 1500.2(e), and that “agencies shall . . . (a) Rigorously explore and objectively evaluate all reasonable alternatives . . .” 40 C.F.R. § 1502.14(a). The EA fails to explore all reasonable alternatives to the Preferred Alternative selected.

The EA [p. 2-5] lists five objectives of the proposed project:

- Enhance interstate commerce by providing sufficient runway length to allow the majority of critical aircraft to operate without weight restrictions.
- Enhance operational safety by improving the FAA ATCT line-of-sight issues.
- Enhance operational safety in low-visibility conditions by providing a clear 34:1 approach surface to Runway 24, over State Road.
- Reduce the occurrence of runway overrun incidents by small category A-I aircraft (local objective).
- Relocate and potentially upgrade the Runway 24 Approach Light System.

As shown in Section I above, enhancing interstate commerce by providing sufficient runway length to allow the majority of critical aircraft to operate without weight restrictions is not a valid need. Further, lengthening Runway 6/24 is not necessary to achieve the remaining four objectives. Those objectives could be met by simply shifting Runway 6/24 150 feet to the southwest, *i.e.*, removing 150 feet from the approach end of Runway 24 and adding 150 feet to the departure end of Runway 24. Runway length would remain 3,505 feet.

Section 2.2.1 of the EA states that a 150-foot shift of the Runway 24 threshold to the west would (1) enhance the safety of ground operations by taxiing aircraft; (2) enhance operational safety, and possibly prevent runway incursions, by expanding the view of the hold area and parallel taxiway to ATCT personnel; (3) allow for a clear 34:1 approach surface to the east end of the runway, providing an added margin of safety between approaching aircraft and ground-based obstacles, which is particularly beneficial when aircraft are operating in low-visibility conditions; and (4) include relocation and replacement of the existing runway approach light system with newer Medium Intensity Approach Lighting System with Sequenced Flashers (MALSF). [EA, pp. 2-5, 2-6]. Shifting Runway 6/24 150 feet to the southwest without lengthening the runway would also accommodate future widening of State Road. Nevertheless, this reasonable alternative was not considered in the EA.



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An Environmental Assessment “shall include brief discussions of . . . alternatives . . .” 40 C.F.R. § 1508.9(b).² Absent an analysis of an alternative based on a 150-foot southwesterly shift of the runway, without lengthening the runway, the EA is inadequate.

III. THE EA FAILS TO ADEQUATELY ANALYZE OR DISCLOSE THE PROJECT’S AIR QUALITY IMPACTS WHERE IT FAILS TO ADDRESS OR DETERMINE THE PROJECT’S CLEAN AIR ACT CONFORMITY.

Section 7506 of the Federal Clean Air Act [42 U.S.C. §§ 7401 *et seq.*] mandates that “[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to [a State Implementation Plan] after it has been approved or promulgated under [42 U.S.C. § 7410].” The Environmental Protection Agency (EPA) has promulgated regulations implementing Section 7506 (the “Conformity Provision”) in 40 C.F.R. §§ 93.150 *et seq.* (“General Conformity Rule”). The General Conformity Rule requires, in part, that Federal agencies first determine if a project is either exempt from conformity analysis or presumed to conform. If it is neither, the agency must conduct a conformity applicability analysis to determine if a full conformity determination is required. *See, Air Quality Procedures for Civilian Airports and Air Force Bases*, p. 13.

The project area, *i.e.*, Washtenaw County, is in attainment for five of the seven criteria pollutants [p. 4-17], and marginal nonattainment for Ozone [p. C-3].³ The area is designated as in nonattainment for PM_{2.5}. [EA, p. C-4]. Therefore, one of the following must apply: (1) the Project is exempt from conformity; or (2) the Project is presumed to conform; or (3) the agency must conduct a conformity applicability analysis to determine if a conformity determination for PM_{2.5} is required. The EA does not indicate that any of the required actions was performed.

² Courts have consistently held that the “existence of reasonable but unexamined alternatives renders an EIS inadequate.” *See, e.g., Friends of Southeast’s Future v. Morrison*, 153 F.3d 1059, 1065 (9th Cir. 1998).

³ The original six criteria pollutants are Ozone (O₃), Particulate Matter (PM₁₀), Carbon Monoxide (CO), Nitrogen Oxides (NO₂), Sulfur Dioxide (SO₂) and Lead (Pb). FAA Order 1050.1E (“Environmental Impacts; Policies and Procedures”), p. A-3, ¶ 2.1b, includes both PM₁₀ and PM_{2.5} under the category Particulate Matter. On April 5, 2010 the EPA published Revisions to the General Conformity Regulations Final Rule [75 Fed. Reg. 17254-279 (2010)] which, among other things, added PM_{2.5} to the list of criteria pollutants in 40 C.F.R. § 93.153(b).



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As a threshold matter, the EA is internally inconsistent with regard to whether the Project is exempt or presumed to conform. At page C-4, the EA states unequivocally that “[f]or this analysis it will be assumed that the project is neither exempt nor presumed to conform.” [Emphasis added.] However, at page C-5 the EA states “. . . a conformity determination is not required and the proposed project is presumed to conform to the state implementation plan.” [Emphasis added.] Under either scenario, however, the EA is deficient and fails to meet the “public disclosure” requirement under the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321 *et seq.*

A. The EA Fails to Establish That the Project Is Exempt.

A federal agency has two options to determine that a project is exempt from conformity analysis: (1) if the project is included in the list of exempt actions listed in § 93.153(c)(2); or (2) if the project’s total of direct and indirect emissions are below the emissions levels specified in § 93.153(b) of the Conformity Regulations (“*de minimis*”). § 93.153(c)(1).

The first option does not apply here because runway and taxiway extension projects such as the one described in the EA [p. 2-1] are not included in the exempt actions listed in § 93.153(c)(2). Nor does the EA establish that the Project can be considered exempt as *de minimis* under 40 C.F.R. § 93.153(c)(1). The EA instead relies on a 1996 MDOT Bureau of Aeronautics Air Quality Study of seven general aviation airports (which notably do not include ARB) for the conclusion that “typical GA airports generate a low level of pollutants.” [EA, p. 4-17]. From that nonspecific conclusion, the EA further generalizes to the assertion that, because ARB is comparable in size and activity to the seven airports studied, it can be assumed that emissions resulting from the Project will not exceed the conformity threshold levels and, on that basis, concludes that a conformity analysis is not required.

This assumption is fatally flawed, however, for at least two reasons: (1) the EA does not quantify PM_{2.5} emissions from flight operations at ARB at all, relying exclusively on the 1996 Study; and (2) because there is no quantification, there is also no comparison with the explicit *de minimis* thresholds established in 40 C.F.R. § 93.153(c)(1). It is correct that the original version of 40 C.F.R. § 93.153(c)(1) did not establish explicit thresholds for PM_{2.5}, as distinguished from PM₁₀. However, the newly implemented revised General Conformity Rule does establish that distinction, and now serves as the template for the air quality analysis required in the EA. Moreover, FAA Order 1050.1E, Appendix A, p. A3, § 2.16 includes both PM₁₀ and PM_{2.5} in “particulate matter.”



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B. The EA Fails to Establish That the Project Is Presumed to Conform.

The second option, the presumption of conformity does not apply here either. In July, 2007, the FAA published a "Federal Presumed to Conform Actions Under General Conformity Final Notice" [72 Fed.Reg. 41,565-580 (July 2007)] in which the FAA listed fifteen Airport Project categories which the FAA presumes to conform to applicable SIPs. The runway and taxiway extension project described in the EA does not fall within any of those presumed to conform categories. Therefore, the FAA cannot rely on the Presumed to Conform Final Notice to presume that the Project is in conformity.

C. The EA Fails to Establish the Project's Conformity Status.

Finally, even if, for argument's sake, the study of airports other than ARB were adequate for air quality analysis of ARB in the EA (which it is not), the 1996 Study would be an inadequate substitute for the required analysis. 40 C.F.R. § 93.159 requires that analyses under the General Conformity Rule be based on, among other things: (1) "the latest planning assumptions," § 93.159(a); and (2) "the latest and most accurate emissions estimation techniques available," § 93.159(b). The 1996, 14-year old, Study patently fails to fall within either, let alone both, of these parameters.

In summary, the EA fails to establish the existence of any of the necessary components of the required finding of conformity for a Federal project, and, thus, is inadequate under both NEPA and the Clean Air Act.

IV. THE EA FAILS TO ACCOUNT FOR WELLS ON AIRPORT PROPERTY.

While Section 4.5.2 of the EA purports to address "Geology, Groundwater, and Soils" affected by the Project, it understates the significance of the fact that water resources are a principal use of the grounds where the airport is located.

"If there is the potential for contamination of an aquifer designated by the [EPA] as a sole or principal drinking water resource for the area, the responsible FAA official needs to consult with the EPA regional office, as required by section 1424(e) of the Safe Drinking Water Act, as amended." FAA Order 1050.1E, pp. A-74, 75, ¶ 17.1c. "When the thresholds indicate that the potential exists for significant water quality impacts, additional analysis in consultation with State or Federal agencies responsible for protecting water quality will be necessary. *Id.*, pp. A-75, A-76, ¶ 17.4a. "If the EA and early consultation [with the EPA] show that there is a potential for exceeding water quality standards [or] identify water quality problems that cannot be avoided or mitigated . . . an EIS may be required. *Id.*, pp. A-75, ¶ 17.3.



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There are two issues raised by the Project that require further examination in the EA. First, there is the issue of contamination from the Airport. The Airport is the location of a porous sand/gravel formation that yields a large amount of water for pumping. Historically, the land where the Airport is located was originally acquired by the City of Ann Arbor for water rights in 1929. Until recently, 15% of Ann Arbor's water supply came from the three wells located on Airport property. Water Quality Report, 2008, City of Ann Arbor, p. 2 (available at http://www.a2gov.org/government/publicservices/water_treatment/documents/ccr.pdf). Due to the importance of the water supply at ARB, the EA needs to have more than a few passing words ("Based on coordination with the City of Ann Arbor, the proposed runway extension would not impact the water supply wells or the new water supply line (Bahl, 2009)"). [EA, p. 4-20].

Second, paving the area for a runway, roads, *etc.* increases the impervious area on the aquifer. This in turn reduces the infiltration of water that feeds the aquifer/City water supply. Adding 950 feet to the end of the runway adds another 71,250 square feet of impervious area over an aquifer that is vital to the City of Ann Arbor. Further environmental review should provide detailed analyses of the impact of this increase in impervious surface, as well as the possibility of contamination, currently unexplored in the EA.

V. THE EA FAILS TO ANALYZE THE PRESENCE OF HAZARDOUS WILDLIFE NEAR THE AIRPORT AND FAILS TO PRESENT ANY MANDATORY MITIGATION MEASURES.

FAA Advisory Circular 150/5200-33B ["Hazardous Wildlife Attractants on or Near Airports"] contains standards for land uses that have the potential to attract hazardous wildlife on or near public-use airports. The standards are applicable to airport development projects, including airport construction, expansion and renovation. Airports that have received Federal grant-in-aid assistance must use these standards. [See, AC 150/5200-33B, p. ii]. The FAA recommends separation distances of 5,000 feet at airports that do not sell Jet-A fuel, and 10,000 feet at airports that sell Jet-A fuel for hazardous wildlife attractants. [AC 150/5200-33B, p.1]. ARB sells Jet-A fuel.

The FAA also "recommends a distance of 5 statute miles between the farthest edge of the airport's AOA [Air Operations Area] and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace." [AC 150/5200-33B, p. 1]. Finally, AC 150/5200-33B provides that "[a]irport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects" [p. 17] and "[t]he FAA will not approve the placement of airport development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures." [pp. 17-18].



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The FAA ranks geese as number three [3] in a list of the relative hazard to aircraft for 25 species groups. [AC 150/5200-33B, Table 1, p. iii]. However, the EA does not disclose that the area surrounding the airport is a prime habitat for large numbers of Canada Geese. EA Appendix F lists 38 species of birds that have either been observed, or for which there has been confirmed or probable breeding in Airport fields during 2006 through 2008. The list does not include Canada Geese. Canada Geese populate waterways on a golf course, in business parks and in neighboring wetlands located west and southwest of the Airport, well within the separation distances prescribed by the FAA.

The preferred alternative (Build Alternative 3) would extend Runway 6/24 950 feet to the southwest. The extension would allow aircraft landing on Runway 6 and departing on Runway 24 to overfly areas populated by Canada Geese at altitudes of less than 100 feet. The EA does not consider this hazardous condition. Even though they are not designated as “special concern”, “threatened” or “endangered,” the presence of Canada Geese in the Airport area poses a hazard to aircraft operational safety, and should be identified and analyzed in the EA, along with proper mitigation measures.

VI. THE EA DOES NOT ACKNOWLEDGE OR ANALYZE THE PROJECT’S
MANIFEST GROWTH-INDUCING IMPACTS.

A Federal agency is required to evaluate not merely the direct impacts of a project, but also its indirect impacts, including those “caused by the action and later in time but still reasonably foreseeable.” 40 C.F.R. § 1508.8(b). Indirect impacts include a project’s growth-inducing effects, such as changes in patterns of land use and population distribution associated with the project [40 C.F.R., § 1508.8(b)] and increased population, increased traffic, and increased demand for services. *City of Davis v. Coleman*, 521 F.2d 661, 675 (9th Cir. 1975). “The growth-inducing effects of [a] project appear to be its *raison d’etre*.” *Id.* The EA ignores this requirement, even though the Project is virtually defined by its growth-inducing impacts. Despite the fact that the EA assumes that the “percent of night and jet operations would remain constant between the existing condition and the future years” [EA, p. 4-2], there is substantial evidence to indicate that the Project will cause a large increase in both types of operations.

As indicated above, there are no weight restrictions that must be lifted to allow the EA’s “critical aircraft” to operate at ARB without weight restrictions. The “load restrictions” referenced on page 2-12 refer not to category B-II aircraft, but to higher category aircraft (jets in the C-I and C-II categories) which must currently operate at reduced weights in order to use the 3,505-foot runway. (Required takeoff length is the primary restrictor.) Operationally, weight is reduced by carrying fewer passengers, less baggage and/or less fuel, all of which discourage these aircraft from conducting operations at ARB.



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For example, a Cessna Citation II (Category B-II) requires 2,990 feet for takeoff at maximum certificated gross weight on a standard day, and can operate at unrestricted weight from the existing 3,505 foot runway. A Lear 35 (Category C-I), on the other hand, requires 5,000 feet for takeoff at maximum certificated gross weight on a standard day. While extending the runway to 4,300 feet would not facilitate unrestricted operations by the Lear 35, the required weight reduction would be less than is currently required. Therefore, the runway extension to 4,300 feet would operationally benefit the Category C-I Lear 35, but would provide no operational benefit to the Category B-II Citation jet, which the EA states is a “critical aircraft.”

The longer runway will facilitate the loading of additional passengers and baggage on high performance jet aircraft. Also, the ability to carry additional fuel may mean that, in certain cases, costly and time consuming intermediate fuel stops will become unnecessary. If the runway is lengthened to 4,300 feet, it is reasonably foreseeable that ARB will become much more attractive to operators of higher performance jet aircraft, such as the Lear 25 (Category C-I), Cessna Citation III (Category C-II) and Cessna Citation Sovereign (Category C-II), who could then operate at ARB instead of driving to and from Willow Run Airport.

Contrary to the unsupported assertions in the EA [EA, p. 42; Appendix B-1, p. B-4], it is reasonably foreseeable that the fleet mix will change in favor of a higher percentage of jet operations, as compared to the current level of light single and multi-engine propeller driven aircraft operations. The smaller Category A-I/II and B-I aircraft account for a high percentage of ARB operations. B-II aircraft account for a low percentage of ARB operations.

It is, therefore, reasonably foreseeable that the number of night operations will increase as the number of arrivals of longer haul business jets often occur in the evening hours due to the longer time duration of their trips. Since one of the stated purposes of the EA is to increase interstate commerce, this is not merely an indirect, but also a direct effect, the Project will have on the surrounding community. This will also affect the fleet mix of night operations to reflect a higher percentage of jet operations than exist under current conditions.

Thus, the evidence is clear that the Project will cause an increase in both jet *and* night operations. It is also reasonably foreseeable that these added high-performance jet aircraft operations and night operations will be accompanied by significant noise and air quality impacts. Nevertheless, the EA fails to acknowledge, let alone analyze, these reasonably foreseeable impacts caused by expansion of Airport physical facilities and operational profile and, thus, is inadequate.



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VII. NOISE MODELING FOR THE PROJECT FAILED TO INCLUDE INCREASED JET AIRCRAFT AND NIGHTTIME OPERATIONS IN DEVELOPING NOISE CONTOURS.

The FAA's Integrated Noise Model ("INM") was used to model annual operations for the 2009 existing condition, *i.e.*, April 2008 through March 2009 [EA Appendix B-1, p. B-4] and develop 65, 70 and 75 DNL noise contours for the Project. [EA, p. 4-3]. The EA states that "[t]he existing 65 DNL contour does not extend beyond airport property." [EA, p. 4-3]. During the time modeled, jet operations accounted for approximately 2 percent of total operations at ARB, and nighttime operations accounted for 4.2 percent of total operations. [EA, p. 4-2]. The EA states: (1) "[t]he percent of night and jet operations would remain constant between the existing condition and the future years"; (2) "fleet mix between the 2009 Existing Condition and the 2014 Future Alternatives would remain static" [EA, p. 4-2; Appendix B-1, p. B-4]; and "[t]he ARB 2014 proposed project alternative DNL 65 dBA noise contour does not extend beyond airport property." [EA, p. B-6].

However, as shown in Section VI above, the Project will likely facilitate an increased number of night operations, and a change in fleet mix, which will include higher performance jet aircraft. DNL calculations depend on, among other things, forecast numbers of operations, operational fleet mix and times of operation (day verses night). [EA, Appendix B-2, p. B-16]. However, the EA fails to model or assess future increased night operations and fleet mix changes resulting from the Project.

The FAA is required to use INM to produce, among other things: (1) noise contours at the DNL 75 dB, DNL 70 dB and DNL 65 dB levels; (2) analysis within the proposed alternative DNL 65 dB contour to identify noise sensitive areas where noise will increase by DNL 1.5 dB⁴; and (3) analysis within the **DNL 60-65 dB contours** to identify noise sensitive areas where noise will increase by DNL 3dB, *if* DNL 1.5 dB increases as documented within the DNL 65 dB contour. [FAA Order 1050.1E, Appendix A, p. A-62, ¶ 14.4d].

As the noise modeling failed to take into account the foreseeable increases in nighttime and jet aircraft operations at ARB, the questions of whether the future DNL 65 dB contour will be increased, and to what extent, and whether increased noise levels within the DNL 65 dB contour would necessitate designation of a DNL 60 dB contour remain unanswered.

⁴ A significant noise impact would occur if analysis shows that the proposed action will cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe." [FAA Order 1050.1E, Appendix A, P. A-61, ¶ 14.3]



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VIII. THE EA FAILS TO CONSIDER THE POLITICAL JURISDICTIONS AFFECTED BY THE PROJECT.

FAA Order 5050.4B, paragraph 706 provides a format for integrating the NEPA process with special purpose laws outside the scope of NEPA in preparing environmental assessments. Paragraph 706.e.(4) requires that an environmental assessment address “[p]olitical jurisdiction(s) the proposed action would affect.” The EA fails to do that. The EA does not disclose that Pittsfield Township, the political jurisdiction in which the Project is located, and neighboring Lodi Township have both passed resolutions opposing the Project. The EA also fails to identify or analyze the effect that environmental impacts, which are certain to result from the Project (*e.g.*, noise, air quality, safety, economic impacts, *etc.*), will have on those political jurisdictions.

IX. CONCLUSION.

Given the Project’s many potential significant environmental impacts that have not been identified or analyzed in the EA, a full Environmental Impact Statement (EIS) is required prior to approval and implementation of the Project. “No matter how thorough, an EA can never substitute for preparation of an EIS, if the proposed action could significantly affect the environment.” *Anderson v. Evans*, 371 F.3d 475, 494 (9th Cir. 2004).

Sincerely,

CHEVALIER, ALLEN & LICHMAN, LLP


for Barbara E. Lichman, Ph.D.

Attachment (1)



Williams Aviation Consultants

Williams Aviation Consultants, Inc. was retained by the law firm of Chevalier, Allen & Lichman, LLP to review and comment on Chapters 1 and 2, and Appendices A and B of the DRAFT Ann Arbor Municipal Airport Environmental Assessment (DEA), February, 2010. The following are our comments on the DEA.

A. Accommodating the Critical Aircraft at Ann Arbor Municipal Airport (ARB)

As stated in paragraph 2.2.7, *“The proposed shift and extension of primary Runway 6/24 at ARB would provide a runway configuration that more effectively accommodates the critical aircraft that presently use the facility.”* (Emphasis added)

In particular, the proposed project would provide the following benefits:

- *Enhance business aviation and interstate commerce by providing sufficient runway length to allow the majority of category B-II Small critical aircraft that currently use ARB to operate without load restrictions (i.e. reduction in passengers, cargo, and fuel associated with aircraft range).* (Emphasis added)

According to paragraph 2.2, Purpose and Need, “The purpose of the proposed improvements at ARB is to provide facilities that more effectively and efficiently *accommodate the critical aircraft* that presently use the airport, as well as to enhance the operational safety of the airport.” (Emphasis added)

The critical aircraft is defined by the FAA as the most demanding aircraft-type that performs a minimum of 500 annual operations at a particular airport. In cases where the critical aircraft weigh less than 60,000 lbs, a classification of aircraft is used rather than a specific individual aircraft model. A recent Airport User Survey has confirmed that the critical aircraft classification for ARB is “*B-II Small Aircraft.*” (Emphasis added)

Also stated under “Purpose and Need” *“Development of the primary runway at ARB to the recommended length of 4,300-feet would allow the majority of B-II Small classification aircraft to operate at their optimum capabilities (without weight restrictions).”* (Emphasis added)

WAC Comment: *There are no aircraft in the B-II Small aircraft classification that require a runway length of 4,300 feet to conduct normal operations. All B-II Small Aircraft are capable of operating out of the current runway (3,505 feet long) without the need to reduce weight by off-loading passengers, baggage or fuel.*

Regarding the establishment of the critical aircraft, ARB lacks the required number of 500 annual operations by B-II Small Aircraft, so they have added larger aircraft such as B-II Large, Category C-I and C-II operations to meet the 500 classification requirement. It is the Category C-I and C-II aircraft which would benefit by the runway extension to 4,300 feet, not

those aircraft that fall within the definition of Category B-II Small Aircraft. The current runway length of 3,500 feet is sufficient to handle all Category B-II Small Aircraft.

B. Lengthening Runway 6/24 to 4,300 Feet: The Impact on Aircraft Load Restrictions and Fleet Mix

The “load restrictions” referenced above in paragraph 2.2.7 refer to the fact that the higher category aircraft (primarily jets in the C-I and C-II categories) must currently operate at reduced weights in order to operate out of the current 3,500 foot runway (required takeoff length is the primary restrictor). Operationally, weight is reduced by carrying fewer passengers, less baggage and/or less fuel; all of which discourage these aircraft from conducting operations out of ARB.

For example: A Cessna Citation II (Category B-II) requires 2,990 feet for takeoff at maximum certificated gross weight on a standard day and may therefore operate unrestricted as to weight from the current 3,500 foot runway. A Lear 35 (Category C-I) requires 5,000 feet for takeoff at maximum certificated gross weight on the same standard day.

The Category B-II Citation II can conduct unrestricted operations from the current 3,500 foot runway. Whereas extending the runway to 4,300 feet would not facilitate unrestricted operations by the Category C-I, Lear 35, the required weight reduction would be less than is currently required. In this way, the runway extension to 4,300 feet would operationally benefit the Category C-I Lear 35, but would provide no operational benefit to the Category B-II Small Citation jet, or any other Category B-II Small aircraft.

*All Category B-II Small aircraft, i.e. the ARB critical design aircraft, are currently accommodated on the existing 3,500 foot runway. Contrary to what is stated in the DEA, lengthening the runway to 4,300 feet **WOULD NOT** “provide a runway configuration that more effectively accommodates the critical aircraft that presently use the facility.”*

If the runway is lengthened to 4,300 feet, other jets such as the Lear 25 (Category C-I), Cessna Citation III (Category C-II) and Cessna Citation Sovereign (Category C-II) may be able to operate out of ARB with minor reductions in takeoff weight. This will impact the community as it could reasonably be expected that the longer runway will attract more of the larger, higher performance jet aircraft to the airport.

These added high performance jet aircraft operations will be accompanied by noise and air quality impacts. Many of these operations will take place at night, thereby negatively affecting the general quiet of the surrounding community.

C. Shifting Runway 6/24 150 Feet to the West While Maintaining the Current Runway Length of 3,500 Feet: The Impact on Load Restrictions, Future Fleet Mix and Safety of Operations

Load Restrictions

Maintaining the current runway length of 3,500 feet would mean that the Category C-I and C-II aircraft would continue to suffer significant load restrictions. These load restrictions would thereby continue to serve as a deterrent to these aircraft operating out of ARB.

Future Fleet Mix

Maintaining the current runway length would serve to maintain the current fleet mix. Category B-II Small jet aircraft include lower powered models such as the smaller versions of the Cessna Citation (Category B-I/II) and the Mitsubishi Diamond jet (Category B-I). Higher powered jet aircraft such as the Lear 25 (Category C-I), Lear 35 (Category C-I), IAI Astra (Category C-I) and Cessna Citation III (Category C-II) may be generally discouraged from flying into Ann Arbor and would generally, with few exceptions choose to land at Detroit and drive the 40 miles to Ann Arbor.

Safety of Operations

2.2.1 Safety Enhancements:

In the first paragraph, the consultant is correct in stating that shifting the Runway 24 threshold 150 feet west would enhance safety by effectively removing the current obstruction to line-of-site vision (hangar) of the parallel taxiway for ATCT personnel.

However, in the next paragraph the consultant states, "The proposed shift of the Runway 24 threshold would also allow for a clear 34:1 approach surface to the east end of the runway (the current approach surface is the steeper 20:1). By keeping obstructions below the flatter 34:1 approach surface, an additional margin of safety is provided between approaching aircraft and any ground-based obstacles."

This statement betrays a lack of understanding by the consultant of Instrument Approach Procedure (IAP) design and TERPS Obstruction Standards. Regarding the 20:1 and the 34:1 surfaces; it is not either/or, but both/and. Both the 20:1 and the 34:1 surfaces exist simultaneously for every published IAP and are defined as "Obstacle Identification Surfaces" which do not establish obstacle clearance safety margins but rather only define instrument approach visibility minimums. The FAA does not require either of these two surfaces to be free of penetration by obstacles, and thus "providing an additional margin of safety" as stated by the consultant does not apply in the case of these two surfaces.

Other TERPS surfaces (Obstacle Clearance Surfaces) are established which do ensure clearance from obstructions and the FAA requires that these Obstacle Clearance Surfaces be clear of structures and terrain. The current IAPs to Runway 24 were designed by the

FAA to accommodate all existing obstructions. In this respect, shifting the runway 150' to the west would not enhance safety.

Summary: Assuming that the consultant is correct in their assertion that shifting the threshold would eliminate obstruction penetrations to the existing 34:1 Obstacle Identification Surface, the effect would not be a safety improvement but would only result in a reduction in the required approach visibility minimums.

D. Appendix B Noise Analysis Report

B-1 Noise Impact Analysis

B.1.3 Data

Flight Operations

The consultant states "INM-modeled annual operations for the 2009 existing condition, consisting of operations from April 2008 through March 2009, totaled 61,969 operations, which is approximately 169 daily operations. Jet operations accounted for approximately 2 percent of the total operations. Nighttime operations accounted for 4.2 percent of the total operations."

2014 future condition aircraft operations were obtained from the 2008 FAA TAF for ARB. Modeled annual operations for the 2014 condition totaled 69,717 operations, or approximately 191 daily operations. *It is assumed that the percent of night and jet operations will remain constant between the existing condition and the future years. In addition, it is also assumed that the fleet mix between the 2009 Existing Condition and the 2014 Future Alternatives will remain static.* The existing and future fleet mix with annual operations is shown in Table B-2." (Emphasis added)

The consultant wrongly assumes that the percent of night and jet operations will remain constant, and that the fleet mix will remain static if Runway 6/24 is lengthened to 4,300 feet.

The longer runway will make ARB much more attractive to larger and higher performance jet aircraft as the added runway length will facilitate the loading of additional passengers and baggage on to these aircraft. Also, being able to carry additional fuel may mean that, in certain cases, costly and time consuming intermediate fuel stops will become unnecessary. As ARB becomes more attractive to higher performance jet aircraft, these larger aircraft may then consider operations to/from ARB in lieu of landing at Detroit and driving to Ann Arbor.

As more high performance jet aircraft begin operations at ARB, the fleet mix will change in favor of a higher percentage of jet operations as compared to the current level of light single and multiengine propeller driven aircraft operations. The smaller Category A-I/II and B-I aircraft currently reflect a high percentage of ARB operations. B-II Small aircraft (the critical design aircraft) reflect a low percentage of ARB operations. Recall that Category B-II Large and Category C aircraft had to be added to the currently operating Category B-II Small aircraft design group in order to meet the 500 operation requirement for establishing the critical aircraft and thereby justify the runway extension.

The number of night operations also has the strong potential to increase as the number of arrivals of the larger, longer haul business jets often occur in the evening hours due to the longer time duration of their trips. This will also affect the fleet mix of night operations to reflect a higher percentage of jet operations than exist under current conditions.